

REMARKS

The last Office Action has been carefully considered.

It is noted that Claims 30 and 32 are rejected under 35 USC 103(a) over the U.S. patent to Coetzee and Ryu, and further in view of the U.S. patent to Drake.

Claim 31 is rejected under 35 USC 103(a) over the U.S. patent to Coetzee, Ryu and Drake, and further in view of the U.S. patent to Guice.

Claims 30-35 are rejected under 35 USC 103(a) over the U.S. patent to Coetzee, Ryu and Drake, and further in view of the U.S. patent to Cook et al.

Claim 36 is rejected under 35 USC 103(a) over the U.S. patents to Coetzee, Ryu, Drake and Cook, and further in view of the U.S. patent to Guice.

Claim 37 is rejected under 35 USC 103(a) over the U.S. patents to Coetzee, Ryu, Drake, Cooke and Guice and further in view of the Japanese patent document to Inoue.

Claims 38, 39 and 42 are rejected under 35 USC 103(a) over the U.S. patents to Coetzee, Ryu, Drake and Cook, and further in view of the U.S. patent to Connelly.

Claims 40 and 41 are rejected under 35 USC 103(a) over the U.S. patents to Coetzee, Ryu, Drake, Cook and Guice, and further in view of the U.S. patent to George.

Also, the specification is objected to and the claims are rejected under 35 USC 112.

In connection with the Examiner's formal objections and rejections, corresponding changes have been made in the specification and the claims, and it is believed that the grounds for the formal objections and rejections are no longer tenable and should be withdrawn.

After carefully considering the Examiner's grounds for rejection of the claims over the art, applicant's amended Claim 30, the broadest claim on file, made some changes in other claims, and added new Claims 44-51.

It is respectfully submitted that the new features of the present invention which are now defined in amended Claim 30 are not disclosed in the prior art applied by the Examiner against the original claims.

It is respectfully submitted that the core of the invention is that in the inventive transport container there is a combination of the superinsulation with a minimum K-value with a cooling agent having at least a minimum "heat of melting." Only this combination creates a physical window which allows constructing a practical container that holds the low temperature for many days and is small enough to ship with reasonable resources. The coolant is a pure organic substance showing a highly defined melting point.

Turning now to the references applied by the Examiner, and in particular to the Coetzee patent, it is respectfully submitted that this reference discloses a transport container for keeping chilled pharmaceutical or veterinary preparations, which seem to be in a liquid phase about 0°C and therefore are not frozen. According to column 4, lines 3-4 of this reference, Coetzee keeps the material at a temperature between 2° and 8°C. The same results can be seen in Figure 8 showing the temperature of the chilled material during 12 hours. Contrary to the Examiner's statement, the Coetzee patent does not mention that the material to be chilled is frozen material as in the applicant's invention. Furthermore, the container disclosed in the patent to Coetzee does not have superinsulation as conceded by the Examiner.

Contrary to the Examiner's opinion, the inner container (16) is not removable arranged in the insulating chamber (in insulation 12) of the Coetzee reference, contrary to the present invention where the inner container (2) can be

removed from the insulation (6) for quick chilling of the exhausted refrigerant (15') after opening, as can be seen from Figures 1-3.

Figure 2 of the patent to Coetze is an exploded view of the parts. After assembling of the parts, the flange (22) connects the parts (12) and (16) at their upper ends as shown in Figure 1. Therefore, according to column 3, lines 51-56, in order to cool down the refrigerant (14), the whole container is placed in the freezer after opening of the lid (28) only, which requires a long time for reloading after exhaustion of the refrigerant.

It is at least questionable that the refrigerant chamber (16) of the Coetze patent is hermetically sealed, since this feature of the present invention is not mentioned and Figure 1 shows a sort of press-fit and form-fit between the upper ends of the inner and outer walls of the inner container (16) enclosing the refrigerant.

Furthermore, the patent to Coetze does not use pure organic substance as a refrigerant, as acknowledged by the Examiner, and does not work with a solid/liquid phase transformation, which guarantees a constant cooling temperature, in contrast to Figure 8 of the Coetze patent with a continuous change of temperature including undesirable subcooling (from 8° to 2°C), and not within a temperature range from -15° to -100°C. Also, the patent to

Coetzee does not disclose that the refrigerant has a heat of melting of at least 50 J/ml as in the transport container in accordance with the present invention.

Finally, in the patent to Coetzee an insulation (20) between the inner container (10) and the cavity (13) which takes up the material to be chilled, is provided. The insulation (20) is counter-productive in view of the objects of the invention to hold the material at the temperature of the refrigerant, to use the full cooling capacity of the refrigerant in order to hold the low temperature for a long time and to absorb all the heat coming in from outside. This is not the case in the patent to Coetzee, where the insulation (20) prevents the refrigerant from direct catching of the heat flowing through the lid (28). Further, the insulation (20) impedes cooling of the exhausted refrigerant.

Claim 30 as amended clearly defines that there is no insulation (direct heat contact) between the inner container (12) and the chilling chamber (16) as shown in Figure 3.

It is therefore believed to be clear that the new features of the present invention which are defined in Claim 30 are not disclosed in the patent to Coetzee.

As for the patent to Ryu, it is correct that this reference discloses a superinsulation with a very low coefficient of thermal conductivity as defined in

Claim 30. However, this feature as known per se does not institute the main feature of the present invention, but is only one plurality of features whose combination constitutes with the present invention.

The patent to Drake discloses a cooler (10, 11, 12, 13) with an open upper side, which receives a closed container (16) with a reusable heat sink means (refrigerant). The cooler is not designed for transporting a material, but instead of it is designed for cooling a mixing slab for exotherm mixing of the dental cement. According to column 2, lines 8-22, the refrigerant can be a brine undergoing the phase change, like brines composed of water and salt. These brines are not pure substances, which hold a temperature point when changing phase and they are not organic substances. A further suggestion is to use either liquid metals, such as mercury or solid metals (not liquids/solid metals as indication for a phase change). Therefore, the metals are suggested as alternative refrigerants without a phase change. The Examiner is incorrect in his statement on page 4, second paragraph, that mercury is an organic substance, and in his statement that the patent to Drake uses mercury in the temperature range of a phase change.

Mercury indeed has an optimal phase change temperature of -39°C for the purpose of transport and storing of frozen biological tissue samples and cell cultures. The claims, however, do not contain any definition of a mercury as

a favorite refrigerant since it poses great obstacles for a quick transport of mercury in airplanes.

It is believed to be clear that the above analyzed references also do not teach the new features of the present invention which are now defined in amended Claim 30.

The combination of the references proposed by the Examiner also would not lead to the applicant's invention as now defined in Claim 30. In order to arrive at the applicant's invention from the teachings of the references, the references have to be fundamentally modified, in particular by including into them the new features of the present invention which are now defined in Claim 30 and were first proposed by applicants. However, it is known that in order to arrive at a claimed invention, by modifying the references the cited art must itself contain a suggestion for such a modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals which, for example, held in its decision In Re Randol and Redford (165 USPQ 586) that:

Prior patents are references only for what they clearly disclose or suggest, it is not a proper use of a patent as a reference to modify its structure to one which prior art references do not suggest.

The present invention also provides for highly advantageous results that can not be accomplished by the devices disclosed in the references. It is well known that in order to support a valid rejection the art must also suggest that it would accomplish applicant's results. This was stated by the Patent Office Board of Appeals, in the case Ex parte Tanaka, Marushma and Takahashi (174 UPSQ 38), as follows:

Claims are not rejected on the ground that it would be obvious to one of the ordinary skill in the art to rewire prior art devices in order to accomplish applicant's result, since there is no suggestion in prior art that such a result could be accomplished by so modifying prior art devices.

In view of the above presented remarks and amendments, it is respectfully submitted that Claim 30, the broadest claim on file, should be considered as patentably distinguishing over the art and should be allowed.

As for the dependent claims, these claims depend on Claim 30, they share its allowable features, and they should be allowed as well.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal

respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,



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